

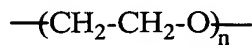
IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A nonaqueous liquid electrolyte having a viscosity at 20°C of 60 cP to 30,000 cP comprising:

a nonaqueous solvent,

an electrolyte dissolved in the nonaqueous solvent containing  $\gamma$ -butyrolactone, and  
a macromolecular material added to the nonaqueous solvent comprising the structure represented by the formula:



wherein  $n \geq 1$ ,

~~wherein the nonaqueous liquid electrolyte is a fluid having a viscosity at 20°C of 7 cP to 30,000 cP,~~

wherein the content of the macromolecular material added to the nonaqueous solvent if 0.01% or more, but less than 10% by weight, and

wherein said nonaqueous liquid electrolyte is formulated for use in a liquid electrolyte secondary battery having a positive electrode containing an active material, a negative electrode containing a material which absorbs and desorbs lithium ions, and a liquid electrolyte sandwiched between the positive and negative electrodes.

Claim 2 (Currently Amended): The nonaqueous liquid electrolyte according to Claim 1, wherein the apparent viscosity of the nonaqueous liquid electrolyte at 20°C is ~~[[50]]~~ 200 cP to 10,000 cP at a shear rate of 20 S<sup>-1</sup>.

Claim 3 (Previously presented): The nonaqueous liquid electrolyte of Claim 1

wherein the nonaqueous liquid electrolyte at 20°C is a fluid which exhibits non-Newtonian properties.

Claim 4 (Previously Presented): The nonaqueous liquid electrolyte according to Claim 3, wherein the nonaqueous liquid electrolyte is a fluid whose apparent viscosity at 20°C decreases with the increase of the shear rate.

Claim 5 (Cancelled)

Claim 6 (Previously presented): The nonaqueous liquid electrolyte of Claim 1 wherein the ratio of ion conductivity  $\sigma$  ( $10^{-3}$  S/cm) to viscosity  $\eta$  (cP),  $p$  ( $\sigma/\eta$ ), in the nonaqueous liquid electrolyte at 20°C is  $<0.1$ .

Claim 7 (Cancelled)

Claim 8 (Previously Presented): The nonaqueous liquid electrolyte according to Claim 1, wherein the average molecular weight of the macromolecular material is in the range of  $1 \times 10^3$  to  $1 \times 10^8$  amu.

Claim 9 (Cancelled)

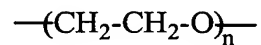
Claim 10 (Currently Amended): A ~~nonaqueous liquid electrolyte~~ secondary battery containing a nonaqueous liquid electrolyte having a viscosity within the range of 60 cP to 30,000 cP comprising:  
a positive electrode containing an active material,

a negative electrode containing a material which absorbs and desorbs lithium ions,  
and

a liquid electrolyte sandwiched between the positive and negative electrodes,  
wherein the liquid electrolyte comprises:

a nonaqueous solvent containing  $\gamma$ -butyrolactone, an electrolyte dissolved in the  
nonaqueous solvent, and

a macromolecular material, which is added to the nonaqueous solvent, comprising the  
structure represented by the formula:



wherein  $n \geq 1$ ,

wherein the content of the macromolecular material added to the nonaqueous solvent  
is 0.01% or more but less than 10% by weight and is sufficient to bring the viscosity of the  
nonaqueous liquid electrolyte at 20°C within the range of  $[[7]]$  60 cP to 30,000 cP.

Claim 11 (Cancelled)

Claim 12 (Currently Amended): ~~The nonaqueous liquid electrolyte~~ secondary battery  
according to Claim 10,

wherein the nonaqueous liquid electrolyte comprises:

a nonaqueous solvent,

an electrolyte dissolved in the nonaqueous solvent and

a macromolecular material added to the nonaqueous solvent, and

the nonaqueous liquid electrolyte at 20°C is a fluid which exhibits non-Newtonian  
properties.

Claim 13 (Currently Amended): The ~~nonaqueous liquid electrolyte~~ secondary battery according to Claim 10,

wherein the ratio of ion conductivity  $\sigma$  ( $10^{-3}$  S/cm) to viscosity  $\eta$  (cp),  $\rho$  ( $\sigma/\eta$ ), in the nonaqueous liquid electrolyte at 20°C is  $<0.1$ .

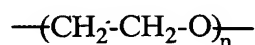
Claim 14 (Currently Amended): The ~~nonaqueous liquid electrolyte~~ secondary battery according to Claim 10, wherein said nonaqueous solvent contains 50-90% by volume  $\gamma$ -butyrolactone.

Claim 15 (Currently Amended): The ~~nonaqueous liquid electrolyte~~ secondary battery according to Claim 10, wherein a separator made of a porous material having pores is disposed between the positive and negative electrodes and the nonaqueous liquid electrolyte is retained within the pores of the separator to be sandwiched between the positive and negative electrodes.

Claim 16 (New): A non-polymerized nonaqueous liquid electrolyte having a viscosity at 20°C of 60 cP to 30,000 cP comprising:

a nonaqueous solvent,

an electrolyte dissolved in the nonaqueous solvent containing  $\gamma$ -butyrolactone, and a macromolecular material added to the nonaqueous solvent comprising the structure represented by the formula:



wherein  $n \geq 1$ ,

wherein the content of the macromolecular material added to the nonaqueous solvent is 0.01% or more, but less than 10% by weight, and

wherein said nonaqueous liquid electrolyte is formulated for use in a liquid electrolyte secondary battery having a positive electrode containing an active material, a negative electrode containing a material which absorbs and desorbs lithium ions, and a liquid electrolyte sandwiched between the positive and negative electrodes.

Claim 17 (New): A secondary battery comprising the non-polymerized nonaqueous liquid electrolyte of Claim 16.

Claim 18 (New): The secondary battery of Claim 17, wherein the ratio  $p$  ranges from 0.001 to 0.05,

wherein  $p = \sigma / \eta$ , and  $\sigma$  is the ion conductivity ( $10^{-3}$  S/cm) and  $\eta$  is the viscosity (cP).

Claim 19 (New): The secondary battery of Claim 17, which has a capacity retention ratio ranging from 50-90% after 300 cycles of charging up to 4.2 V at a rate of 1 C with a constant current and voltage at 45°C for 3 hours and discharging down to 2.7 V at a rate of 1 C.

Claim 20 (New): The secondary battery of Claim 17, which exhibits a  $(d_{500}-d_0)/d_0$  ratio of less than 36 after 500 cycles of charging up to 4.2 V at a rate of 2 C with a constant current and voltage at 45°C for 3 hours and discharging down to 3.0 V at a rate of 1 C, wherein  $d_{500}$  is the thickness of the battery after 500 cycles of charging and discharging and  $d_0$  is the original battery thickness.

Claim 21 (New): The secondary battery of Claim 17, which shows no leakage of the nonaqueous liquid electrolyte after application of a load of 300 kg per cell.

Claim 22 (New): A method for making a secondary battery comprising:  
fabricating a secondary battery comprising a negative electrode, positive electrode, an electrolyte, and an outer packaging material,  
wherein the electrolyte is the non-polymerized nonaqueous liquid electrolyte of Claim 16.